

INCH-POUND

MIL-DTL-83513/13C

20 September 2002

SUPERSEDING

MIL-PRF-83513/13B

15 August 1997

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, RECTANGULAR, RECEPTACLE, MICROMINIATURE,
POLARIZED SHELL, RIGHT ANGLE, SOCKET CONTACTS, 2 ROW, SOLDER TYPE,
NARROW PROFILE, 9 THROUGH 37 CONTACTS, PRINTED CIRCUIT BOARD

This specification is approved for use by all Departments and
Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall
consist of this specification and MIL-DTL-83513.

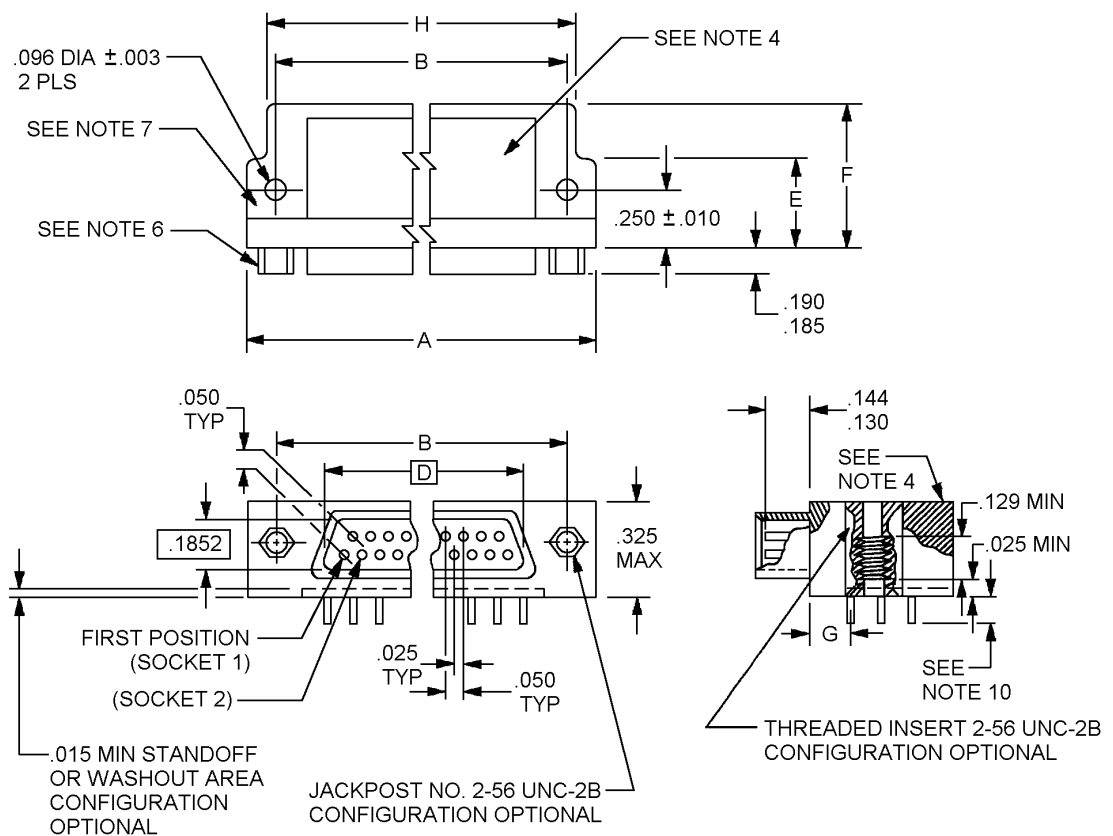
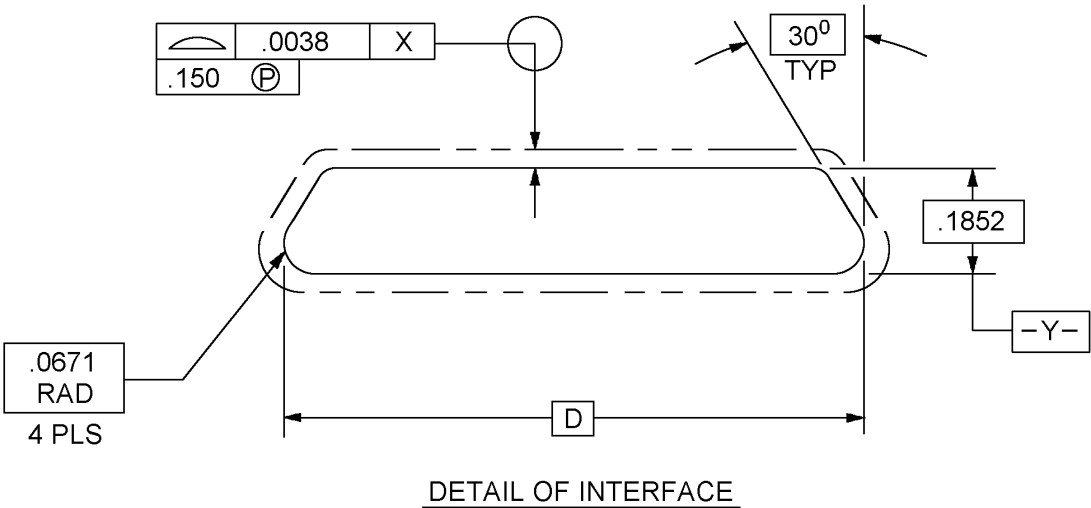


FIGURE 1. Connector, receptacle, .050 spacing.



Inches	mm	Inches	mm
.003	0.08	.130	3.30
.0038	0.096	.144	3.66
.010	0.25	.150	3.81
.015	0.38	.185	4.70
.025	0.635	.1852	4.704
.050	1.27	.190	4.83
.0671	1.704	.250	6.35
.096	2.44	.325	8.23

FIGURE 1. Connector, receptacle, .050 spacing - Continued.

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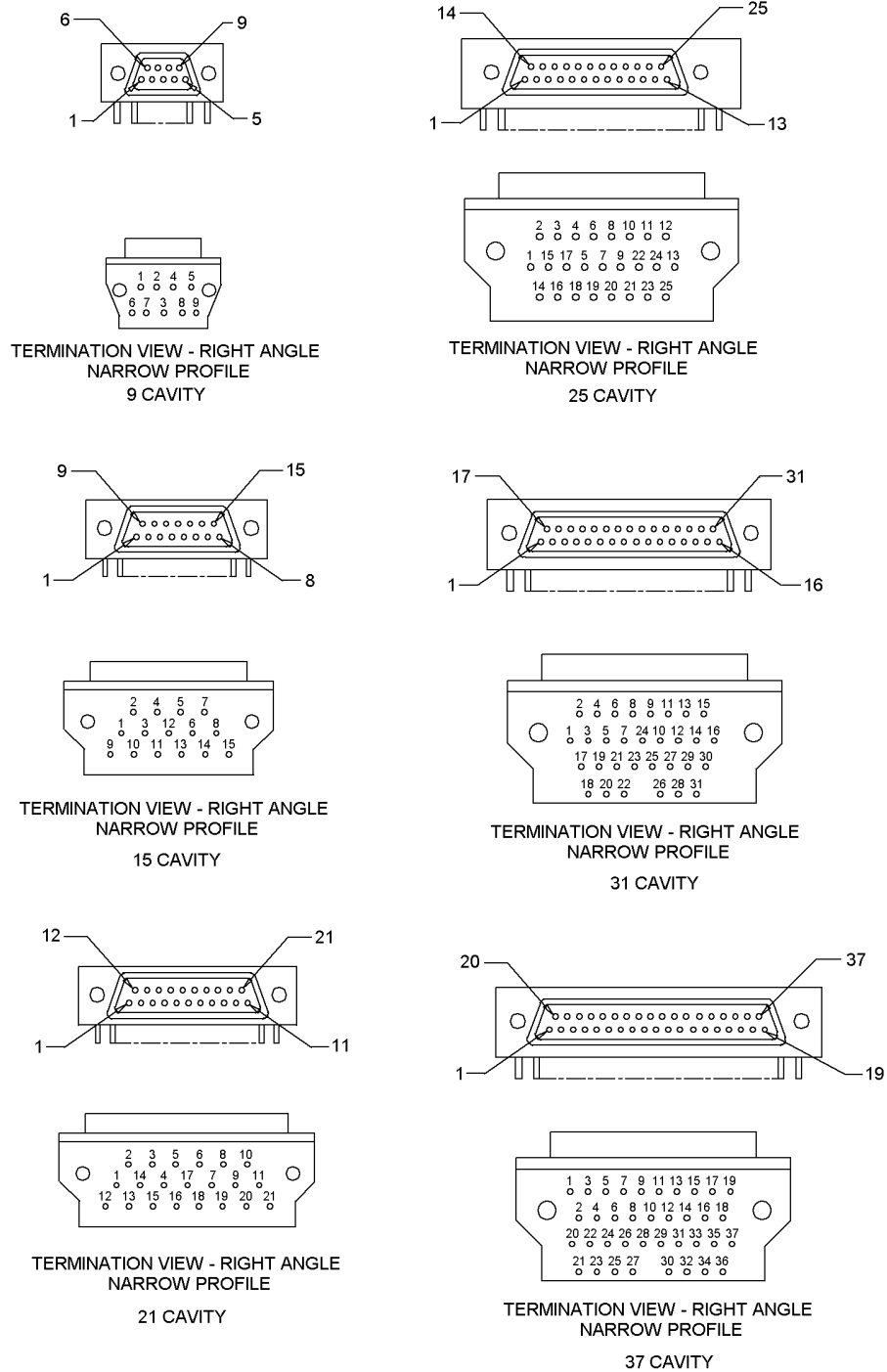
Number of contacts	A Max	B $\pm .005$	<div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px; text-align: center; line-height: 20px;">D</div>	E Max	F Max	G $\pm .01$	H Max
9	.787 (19.99)	.565 (14.35)	.3342 (8.49)	.425 (10.80)	.425 (10.80)	.230 (5.84)	.787 (19.99)
15	.937 (23.80)	.715 (18.16)	.4842 (12.30)	.425 (10.80)	.425 (10.80)	.130 (3.30)	.937 (23.80)
21	1.087 (27.61)	.865 (21.97)	.6342 (16.11)	.425 (10.80)	.425 (10.80)	.130 (3.30)	1.087 (27.61)
25	1.187 (30.15)	.965 (24.51)	.7342 (18.65)	.425 (10.80)	.425 (10.80)	.130 (3.30)	1.187 (30.15)
31	1.337 (33.96)	1.115 (28.32)	.8842 (22.46)	.450 (11.43)	.525 (13.34)	.130 (3.30)	1.090 (27.69)
37	1.487 (37.77)	1.265 (32.13)	1.0342 (26.27)	.450 (11.43)	.525 (13.34)	.130 (3.30)	1.190 (30.23)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are $\pm .005$ (0.13 mm).
4. Termination organization area to be optionally molded or filled with a potting fill material capable of passing the electrical and environmental requirements of MIL-DTL-83513. Plastic molding shall conform to type GDI-30F or type SDG-F in accordance with ASTM D5948 or GCT-30F in accordance with ASTM D5927 or MIL-M-24519 or GST-40F in accordance with ASTM D4067 or MIL-M-24519 or GLCP-30F or GLCP-50 in accordance with ASTM D5138 or MIL-M-24519.
5. Metal shell shall be of material in accordance with MIL-DTL-83513 for class M parts.
6. Jackpost (permanently attached), when specified: Corrosion resistant steel in accordance with ASTM A484 and ASTM A582, 300 series stainless steel, passivated in accordance with SAE-AMS-QQ-P-35.
7. Separately molded plastic body (if used) shall conform to type GDI-30F or type SDG-F in accordance with ASTM D5948 or GCT-30F in accordance with ASTM D5927 or MIL-M-24519 or GST-40F in accordance with ASTM D4067 or MIL-M-24519 or GLCP-30F or GLCP-50 in accordance with ASTM D5138 or MIL-M-24519.
8. Wire termination sockets shall conform to A-A-59551, no. 24 AWG copper.
9. Interfacial seals are included with each type receptacle connector.
10. Termination lengths available: .109 (2.77 mm), .140 (3.56 mm), or .172 (4.37 mm). The tolerance shall be $\pm .015$ (0.38 mm) for all termination lengths.
11. Threaded insert, when specified: Corrosion resistant steel in accordance with ASTM A484 and ASTM A582, 300 series stainless steel, passivated in accordance with SAE-AMS-QQ-P-35.

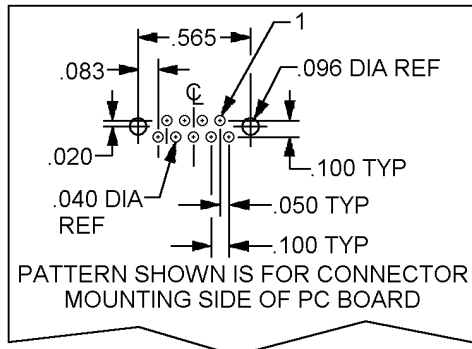
FIGURE 1. Connector, receptacle, .050 spacing - Continued.

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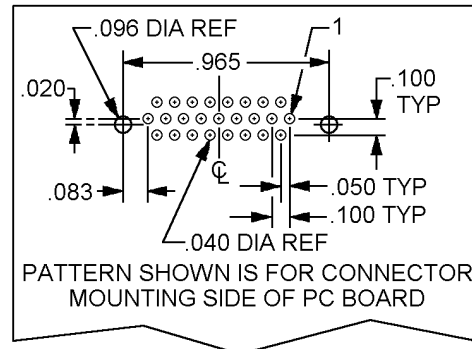


NOTE: Engaging face of socket insert shown, cavity identification numbers are for reference only and do not appear on the part.

FIGURE 2. Insert arrangement.



9 CONTACT SOCKET CONNECTOR
RIGHT ANGLE



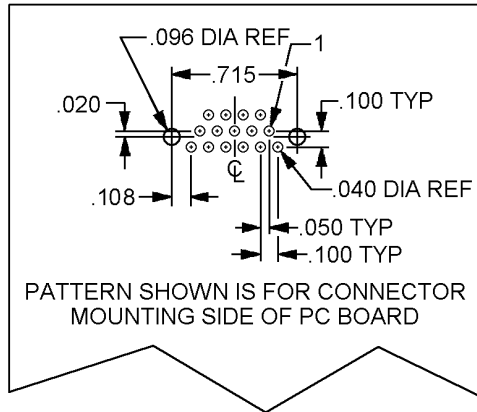
25 CONTACT SOCKET CONNECTOR
RIGHT ANGLE

Inches	mm	Inches	mm	Inches	mm
.020	0.51	.100	2.54	.715	18.16
.040	1.02	.108	2.74	.865	21.97
.050	1.27	.158	4.01	.965	24.51
.083	2.11	.183	4.65	1.115	28.32
.096	2.44	.565	14.35	1.265	32.13

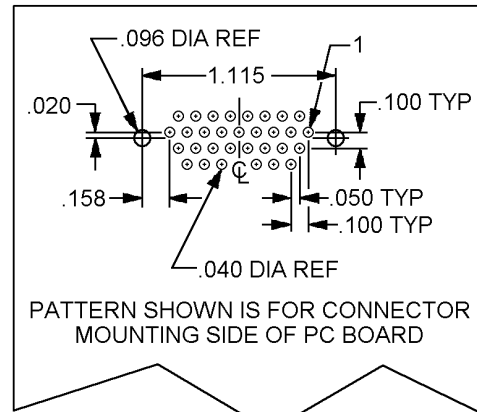
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is $\pm .005$ (0.13 mm) on decimals.

FIGURE 3. Layout arrangement.

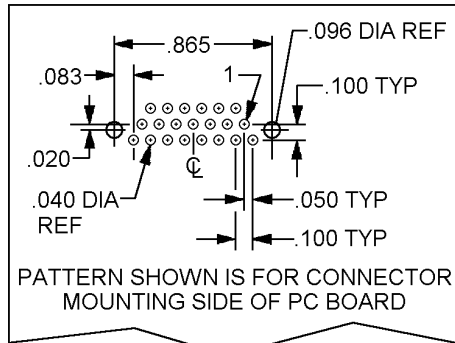


15 CONTACT SOCKET CONNECTOR
RIGHT ANGLE

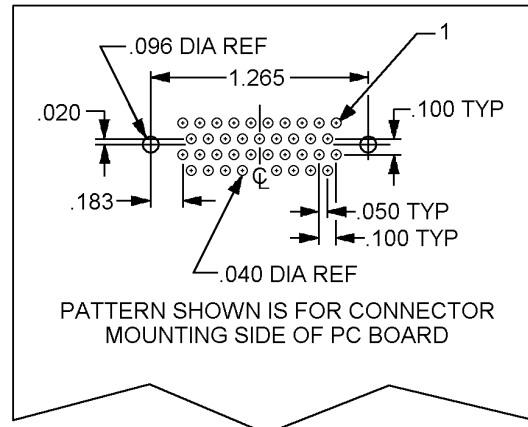


31 CONTACT SOCKET CONNECTOR
RIGHT ANGLE

FIGURE 3. Layout arrangement - Continued.



21 CONTACT SOCKET CONNECTOR
RIGHT ANGLE



37 CONTACT SOCKET CONNECTOR
RIGHT ANGLE

FIGURE 3. Layout arrangement - Continued.

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REQUIREMENTS:

Dimensions and configurations: See figures 1, 2 and 3.

Current rating, maximum: 3 amperes per contact.

Materials:

Termination organization area: Potting fill material capable of passing the electrical and environmental requirements of MIL-DTL-83513.

Shell: The requirements for shell materials shall be in accordance with MIL-DTL-83513.

Plastic body or plastic molding: Shall conform to the requirements of GDI-30F or type SDG-F in accordance with ASTM D5948 or GCT-30F in accordance with ASTM D5927 or MIL-M-24519 or GST-40F in accordance with ASTM D4067 or MIL-M-24519 or GLCP-30F or GLCP-50 in accordance with ASTM D5138 or MIL-M-24519.

Jackpost: Corrosion resistant steel in accordance with ASTM A484 and ASTM A582, 300 series stainless steel, passivated in accordance with SAE-AMS-QQ-P-35.

Wire termination pins: Wire termination pins shall conform to A-A-59551, no. 24 AWG copper.

Mating connector: Shall conform to MIL-DTL-83513/1 and MIL-DTL-83513/3.

Plating of termination leads: Solder dipping of termination leads will be accomplished in SN60 PB40 or SN63 PB37 in accordance with J-STD-006.

Part or Identifying Number (PIN): PIN shall consist of the letter M, the basic number of the specification sheet, a letter from the insert, a numerical code for the termination length, and a letter code for the shell finish and hardware column.

<u>M83513/13-</u>	<u>D</u>	<u>01</u>	<u>C</u>	<u>P</u>
Specification sheet number	Insert arrangements (see figure 2)	Termination length	Shell finish (interface critical)	Hardware
	A = 09	01 = .109	C = cadmium	N = no jackpost or threaded insert
	B = 15	02 = .140	N = electroless nickel	P = jackpost attached
	C = 21	03 = .172	(space application)	T = threaded insert
	D = 25		P = passivated stainless steel	W = jackpost and threaded insert
	E = 31			
	F = 37			

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 11
NASA - NA
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-4310-013)

Review activities:

Army - AT, MI
Navy - AS, CG, MC, SH
Air Force - 99